

Connecting via Winsock to STN

Welcome to STN International! Enter x:X

LOGINID:SSPTASXS1626

PASSWORD:

\* \* \* \* \* RECONNECTED TO STN INTERNATIONAL \* \* \* \* \*  
SESSION RESUMED IN FILE 'CAPLUS' AT 14:19:25 ON 18 MAR 2010  
FILE 'CAPLUS' ENTERED AT 14:19:25 ON 18 MAR 2010  
COPYRIGHT (C) 2010 AMERICAN CHEMICAL SOCIETY (ACS)  
COST IN U.S. DOLLARS

	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	20.55	212.31

=> file re  
'RE' IS AN AMBIGUOUS FILE OR CLUSTER NAME  
REACTION - Reactions Cluster  
RESEARCH - Research Cluster  
REGISTRY - The CAS Registry File of substances  
ENTER FILE OR CLUSTER NAME (IGNORE):end

=> file ref  
'REF' IS NOT A VALID FILE NAME  
SESSION CONTINUES IN FILE 'CAPLUS'  
Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files  
that are available. If you have requested multiple files, you can  
specify a corrected file name or you can enter "IGNORE" to continue  
accessing the remaining file names entered.

=>  
=> file reg  
COST IN U.S. DOLLARS

	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	21.05	212.81

FILE 'REGISTRY' ENTERED AT 14:19:47 ON 18 MAR 2010  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 17 MAR 2010 HIGHEST RN 1211109-76-0  
DICTIONARY FILE UPDATES: 17 MAR 2010 HIGHEST RN 1211109-76-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 8, 2010.

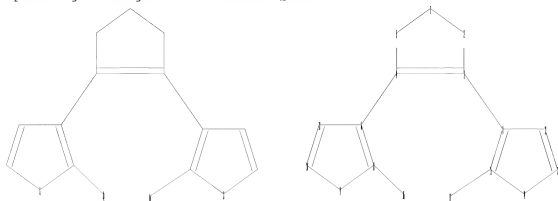
Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdoc/properties.html>

=>

Uploading C:\Program Files\STNEXP\Queries\105235.str



chain nodes :

16 17

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

chain bonds :

3-7 4-6 8-16 15-17

ring bonds :

1-2 1-5 2-3 3-4 4-5 6-8 6-11 7-12 7-15 8-9 9-10 10-11 12-13 13-14 14-15

exact/norm bonds :

8-16 15-17

exact bonds :

1-2 1-5 2-3 3-4 3-7 4-5 4-6 6-8 6-11 7-12 7-15 8-9 9-10 10-11 12-13 13-14 14-15

isolated ring systems :

containing 1 : 6 : 7 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom  
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom

L4 STRUCTURE UPLOADED

=> s l4 sss full

FULL SEARCH INITIATED 14:20:08 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 3780 TO ITERATE

100.0% PROCESSED 3780 ITERATIONS

14 ANSWERS

SEARCH TIME: 00.00.01

L5 14 SEA SSS FUL L4

=> file capl

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

191.54

404.35

FILE 'CAPLUS' ENTERED AT 14:20:11 ON 18 MAR 2010  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
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FILE COVERS 1907 - 18 Mar 2010 VOL 152 ISS 12  
FILE LAST UPDATED: 17 Mar 2010 (20100317/ED)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2009  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2009

Caplus now includes complete International Patent Classification (IPC) reclassification data for the first quarter of 2010.

CAS Information Use Policies apply and are available at:

<http://www.cas.org/legal/infopolicy.html>

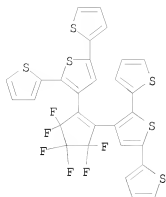
This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 15

L6 13 L5

=> d 16 1-13 ibib hitstr

L6 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2010 ACS ON STN  
ACCESSION NUMBER: 2009:796026 CAPLUS  
DOCUMENT NUMBER: 151:123405  
TITLE: Theoretical Study of Photochromic Compounds. 1. Bond Length Alternation and Absorption Spectra for the Open and Closed Forms of 29 Diarylethene Derivatives  
AUTHOR(S): Patel, Pansy D.; Masunov, Artem E.  
CORPORATE SOURCE: NanoScience Technology Center, Department of Chemistry, and Department of Physics, University of Central Florida, Orlando, FL, 32826, USA  
SOURCE: Journal of Physical Chemistry A (2009), 113(29), 8409-8414  
CODEN: JPACFH; ISSN: 1089-5639  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
IT 496053-39-5  
RL: PRP (Properties)  
(DFT study on bond length alternation and absorption spectra of the open and closed forms of photochromic diarylethene derivs.)  
RN 496053-39-5 CAPLUS  
CN 2,2':5',2''-Terthiophene, 3',3''''-(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)bis- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)  
REFERENCE COUNT: 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2007:564947 CAPLUS

DOCUMENT NUMBER: 146:531243

TITLE: Optical article having anti-theft feature and a system  
and method for inhibiting theft of same

INVENTOR(S): Wisnudel, Marc Brian; Topka, Terry Michael; Wu,  
Pingfan Peter; Potyrailo, Radislav Alexandrovich;  
Gascoyne, David Gilles; Smith, William David; Dhalla,  
Adil Minoo; Chauhan, Yogendrasinh Bharatsinh; Pawar,  
Rupesh Bhikaji; Singh, Bharat; Maruvada,  
Sriramakrishna; Pai-Paranjape, Vandita; Welles,  
Kenneth Brakeley; Schottland, Philippe; Olczak, Eugene  
George; Menon, Ashok

PATENT ASSIGNEE(S): General Electric Co., USA

SOURCE: U.S. Pat. Appl. Publ., 31 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 9

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070116988	A1	20070524	US 2005-286279	20051121
US 20070116920	A1	20070524	US 2006-557618	20061108
AU 2006318608	A1	20070531	AU 2006-318608	20061120
CA 2629158	A1	20070531	CA 2006-2629158	20061120
WO 2007061974	A1	20070531	WO 2006-US44943	20061120
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

EP 1955328 A1 20080813 EP 2006-838099 20061120  
 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,  
 IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR  
 US 20080012707 A1 20080117 US 2007-864509 20070928  
 US 20080019258 A1 20080124 US 2007-864516 20070928  
 PRIORITY APPLN. INFO.: US 2005-286279 A2 20051121  
 US 2006-538451 A2 20061004  
 WO 2006-US44943 W 20061120

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

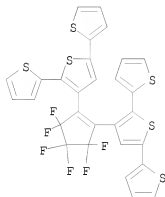
IT 496053-39-5

RL: MOA (Modifier or additive use); USES (Uses)

(optical article having anti-theft feature and a system and method for  
 inhibiting theft of same)

RN 496053-39-5 CAPLUS

CN 2,2':5',2''-Terthiophene, 3',3''''-(3,3,4,4,5,5-hexafluoro-1-cyclopentene-  
 1,2-diyl)bis- (CA INDEX NAME)



L6 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2007:564333 CAPLUS

DOCUMENT NUMBER: 147:19764

TITLE: Optical data carrier having anti-theft feature by  
 activating / de-activating an electro- chromic  
 structure

INVENTOR(S): Wisnudel, Marc Brian; Welles, Kenneth Brakeley; Litz,  
 Kyle Erik

PATENT ASSIGNEE(S): General Electric Company, USA

SOURCE: PCI Int. Appl., 77pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007059288	A1	20070524	WO 2006-US44539	20061117
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,			

IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,  
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
KG, KZ, MD, RU, TJ, TM

US 20070115762

A1 20070524

US 2005-286280

20051121

PRIORITY APPLN. INFO.:

US 2005-286280

A 20051121

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

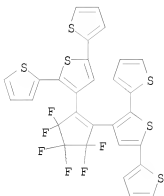
IT 496053-39-5

RL: TEM (Technical or engineered material use); USES (Uses)

(optical data carrier having anti-theft feature by activating /  
de-activating an electro- chromic structure)

RN 496053-39-5 CAPLUS

CN 2,2':5',2''-Terthiophene, 3',3''''-(3,3,4,4,5,5-hexafluoro-1-cyclopentene-  
1,2-diyl)bis- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)  
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2007:446764 CAPLUS

DOCUMENT NUMBER: 147:188676

TITLE: Bidirectional ring-opening and ring-closing of  
cationic 1,2-dithienylcyclopentene molecular switches  
triggered with light or electricity

AUTHOR(S): Gorodetsky, Brian; Branda, Neil R.

CORPORATE SOURCE: Department of Chemistry, Simon Fraser University,  
Burnaby, BC, V5A 1S6, Can.

SOURCE: Advanced Functional Materials (2007), 17(5), 786-796

CODEN: AFMDC6; ISSN: 1616-301X

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 147:188676

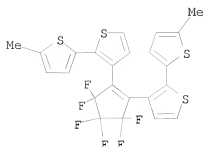
IT 944313-46-6P

RL: PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic  
preparation); PREP (Preparation); RACT (Reactant or reagent)

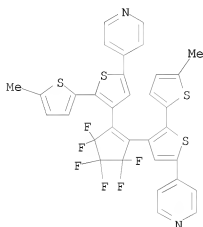
(coupling reaction with 4-bromopyridine; bidirectional ring-opening and  
ring-closing of cationic 1,2-dithienylcyclopentene mol. switches  
triggered with light or electricity)

RN 944313-46-6 CAPLUS

CN 2,2'-Bithiophene, 3-[3,3,4,4,5,5-hexafluoro-2-(5'-methyl[2,2'-bithiophen]-  
3-yl)-1-cyclopenten-1-yl]-5'-methyl- (CA INDEX NAME)



IT 944313-49-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (quaternization and photochem. ring closure; bidirectional ring-opening and ring-closing of cationic 1,2-dithienylcyclopentene mol. switches triggered with light or electricity)  
 RN 944313-49-9 CAPLUS  
 CN Pyridine, 4,4'-[(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)bis(5'-methyl[2,2'-bithiophene]-3,5-diyl)]bis- (CA INDEX NAME)

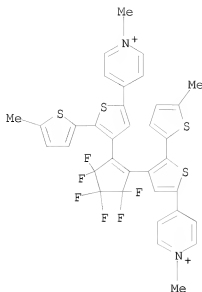


IT 944313-52-4P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (target, photochem. and electrochem. ring closure; bidirectional ring-opening and ring-closing of cationic 1,2-dithienylcyclopentene mol. switches triggered with light or electricity)  
 RN 944313-52-4 CAPLUS  
 CN Pyridinium, 4,4'-[(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)bis(5'-methyl[2,2'-bithiophene]-3,5-diyl)]bis[1-methyl-, hexafluorophosphate(1-)(1:2)] (CA INDEX NAME)

CM 1

CRN 944313-51-3

CME C35 H26 F6 N2 S4

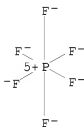


CM 2

CRN 16919-18-9

CMF F6 P

CCI CCS



OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS RECORD (11 CITINGS)

REFERENCE COUNT: 89 THERE ARE 89 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2010 ACS ON STN

ACCESSION NUMBER: 2006:499931 CAPLUS

DOCUMENT NUMBER: 146:102323

TITLE: Photochromic 1,2-dihetarylethenes with perfluorocyclopentene bridge: Synthesis and spectral and kinetic study

AUTHOR(S): Yarovenko, V. N.; Es'kov, A. A.; Semenov, S. L.; Zavarzin, I. V.; Kadentsev, V. I.; Kalik, M. A.; Krayushkin, M. M.; Strokach, Yu. P.; Valova, T. M.; Golotyuk, Z. O.; Barachevsky, V. A.

CORPORATE SOURCE: N. D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Moscow, 119991, Russia

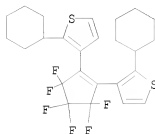
SOURCE: Russian Chemical Bulletin (2005), 54(12), 2790-2793

CODEN: RCBUEY; ISSN: 1066-5285

PUBLISHER: Springer



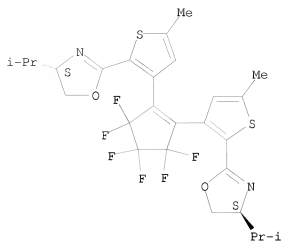
DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 146:102323  
 IT 917867-69-7  
 RL: PRP (Properties)  
 (photochromic 1,2-dihetarylethenes with perfluorocyclopentene bridge)  
 RN 917867-69-7 CAPLUS  
 CN Thiophene, 3,3'-(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)bis[2-cyclohexyl- (CA INDEX NAME)]



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
 (1 CITINGS)  
 REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 2006:54141 CAPLUS  
 DOCUMENT NUMBER: 145:438344  
 TITLE: Photo controlled stereoselective organic synthetic  
 reaction  
 AUTHOR(S): Ishitani, Haruro  
 CORPORATE SOURCE: Tokyo Institute of Technology, Japan  
 SOURCE: Kagaku (Kyoto, Japan) (2006), 61(1), 64-65  
 CODEN: KAKYAU; ISSN: 0451-1964  
 PUBLISHER: Kagaku Dojin  
 DOCUMENT TYPE: Journal; General Review  
 LANGUAGE: Japanese  
 IT 912969-12-1  
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES  
 (Uses)  
 (photo controlled stereoselectivity in copper-catalyzed asym.  
 cyclopropanation of styrene by Et diazoacetate)  
 RN 912969-12-1 CAPLUS  
 CN Oxazole, 2,2'-[(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)bis(5-methyl-3,2-thiophenediyl)]bis[4,5-dihydro-4-(1-methylethyl)-, (4S,4'S)-(9CI) (CA INDEX NAME)]

Absolute stereochemistry.



L6 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:559648 CAPLUS

DOCUMENT NUMBER: 143:152970

TITLE: Electrochemical Cyclization/Cycloreversion Reactions of Diarylethenes

AUTHOR(S): Moriyama, Yoshihisa; Matsuda, Kenji; Tanifuji, Naoki; Irie, Setsuko; Irie, Masahiro

CORPORATE SOURCE: Department of Chemistry and Biochemistry, Graduate School of Engineering, JST, Kyushu University and PRESTO, Fukuoka, Higashi-ku, 812-8581, Japan

SOURCE: Organic Letters (2005), 7(15), 3315-3318

CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

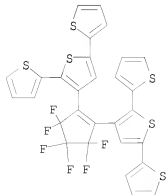
OTHER SOURCE(S): CASREACT 143:152970

IT 860031-05-6

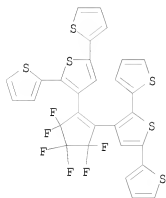
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent) (electrochem. cyclization/cycloreversion reactions of diarylethenes)

RN 860031-05-6 CAPLUS

CN 2,2':5',2''-Terthiophene, 3',3''''-(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)bis-, radical ion(1+) (9CI) (CA INDEX NAME)



IT 496053-39-5  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
 (electrochem. cyclization/cycloreversion reactions of diarylethenes)  
 RN 496053-39-5 CAPLUS  
 CN 2,2':5',2''-Terthiophene, 3',3'''-(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)bis- (CA INDEX NAME)

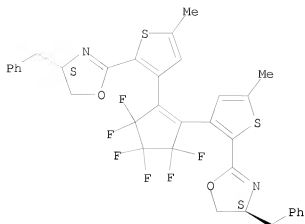


OS.CITING REF COUNT: 52 THERE ARE 52 CAPLUS RECORDS THAT CITE THIS RECORD (53 CITINGS)  
 REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 2005:329974 CAPLUS  
 DOCUMENT NUMBER: 143:7262  
 TITLE: Photoswitching of stereoselectivity in catalysis using a copper dithienylethene complex  
 AUTHOR(S): Sud, David; Norsten, Tyler B.; Branda, Neil R.  
 CORPORATE SOURCE: Department of Chemistry, Simon Fraser University, Burnaby, BC, V5A 1S6, Can.  
 SOURCE: Angewandte Chemie, International Edition (2005), 44(13), 2019-2021  
 CODEN: ACIEF5; ISSN: 1433-7851  
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 143:7262

IT 852631-43-7  
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
 (photoswitching of stereoselectivity in catalysis using copper dithienylethene complex)  
 RN 852631-43-7 CAPLUS  
 CN Oxazole, 2,2'-[(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)bis(5-methyl-3,2-thiophenediyl)]bis[4,5-dihydro-4-(phenylmethyl)-, (4S,4'S)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



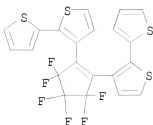
OS.CITING REF COUNT: 21 THERE ARE 21 CAPLUS RECORDS THAT CITE THIS  
RECORD (21 CITINGS)  
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2004:143237 CAPLUS  
DOCUMENT NUMBER: 140:199926  
TITLE: Photochromic and electrochromic compounds and methods  
of synthesizing and using same  
INVENTOR(S): Branda, Neil R.; Peters, Andrea; Wigglesworth, Anthony  
J.  
PATENT ASSIGNEE(S): Simon Fraser University, Can.  
SOURCE: PCT Int. Appl., 62 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

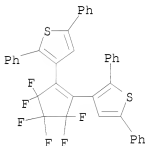
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004015024	A1	20040219	WO 2003-CA1216	20030811
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2494920	A1	20040219	CA 2003-2494920	20030811
AU 2003257320	A1	20040225	AU 2003-257320	20030811
JP 2005535692	T	20051124	JP 2004-526557	20030811
JP 4410108	B2	20100203		
US 20060240197	A1	20061026	US 2005-523965	20050207
PRIORITY APPLN. INFO.:			US 2002-402081P	P 20020809
			US 2003-442063P	P 20030124
			WO 2003-CA1216	W 20030811

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT  
OTHER SOURCE(S): MARPAT 140:199926

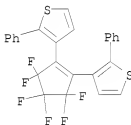
IT 496053-40-8P 516492-70-9P 516492-71-0P  
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP  
 (Preparation); USES (Uses)  
 (dithienylcyclopentene derivs. convertible between ring-open and  
 ring-closed isomeric forms and polymers including them and their  
 synthesis and use)  
 RN 496053-40-8 CAPLUS  
 CN 2,2'-Bithiophene, 3-(2-[2,2'-bithiophen]-3-yl-3,3,4,4,5,5-hexafluoro-1-  
 cyclopenten-1-yl)- (CA INDEX NAME)



RN 516492-70-9 CAPLUS  
 CN Thiophene, 3,3'-(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)bis(2,5-  
 diphenyl)- (CA INDEX NAME)

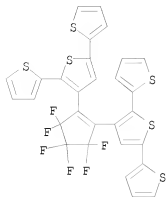


RN 516492-71-0 CAPLUS  
 CN Thiophene, 3,3'-(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)bis(2-  
 phenyl)- (CA INDEX NAME)



IT 496053-39-5P  
 RL: DEV (Device component use); IMF (Industrial manufacture); RCT  
 (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (dithienylcyclopentene derivs. convertible between ring-open and  
 ring-closed isomeric forms and polymers including them and their  
 synthesis and use)  
 RN 496053-39-5 CAPLUS

CN 2,2':5',2''-Terthiophene, 3',3''''-(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)bis- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:151150 CAPLUS

DOCUMENT NUMBER: 138:346346

TITLE: Electrochromism in photochromic dithienylcyclopentenenes

AUTHOR(S): Peters, Andrea; Branda, Neil R.

CORPORATE SOURCE: Department of Chemistry, Simon Fraser University, Burnaby, BC, V5A 1S6, Can.

SOURCE: Journal of the American Chemical Society (2003), 125(12), 3404-3405

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

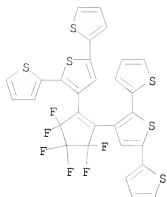
LANGUAGE: English

IT 496053-39-5

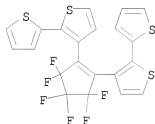
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
(photochem. ring-closing and electrochem. ring opening properties of bis(thienyl)cyclopentene derivs.)

RN 496053-39-5 CAPLUS

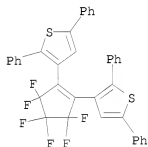
CN 2,2':5',2''-Terthiophene, 3',3''''-(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)bis- (CA INDEX NAME)



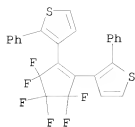
IT 496053-40-8 516492-70-9 516492-71-0  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)  
 (photochromic and electrochromic properties of bis(thienyl)cyclopentene derivs.)  
 RN 496053-40-8 CAPLUS  
 CN 2,2'-Bithiophene, 3-(2-[2,2'-bithiophen]-3-yl-3,3,4,4,5,5-hexafluoro-1-cyclopenten-1-yl)- (CA INDEX NAME)



RN 516492-70-9 CAPLUS  
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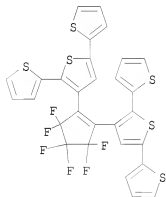


RN 516492-71-0 CAPLUS  
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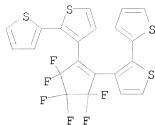
OS.CITING REF COUNT: 98 THERE ARE 98 CAPLUS RECORDS THAT CITE THIS  
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RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2002:735163 CAPLUS  
DOCUMENT NUMBER: 138:160898  
TITLE: Regulating  $\pi$ -conjugated pathways using a  
photochromic 1,2-dithienylcyclopentene  
AUTHOR(S): Peters, Andrea; McDonald, Robert; Branda, Neil R.  
CORPORATE SOURCE: Department of Chemistry, Simon Fraser University,  
Burnaby, BC, V5A 1S6, Can.  
SOURCE: Chemical Communications (Cambridge, United Kingdom)  
(2002), (19), 2274-2275  
CODEN: CHCOFS; ISSN: 1359-7345  
PUBLISHER: Royal Society of Chemistry  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
IT 496053-39-5 496053-40-8  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical  
process); PRP (Properties); PROC (Process)  
(regulation and reversible re-routing of  $\pi$ -conjugation by  
photochromic reactions of bis(terthiophene) derivs. with  
diethienylethene backbone)  
RN 496053-39-5 CAPLUS  
CN 2,2':5',2''-Terthiophene, 3',3''''-(3,3,4,4,5,5-hexafluoro-1-cyclopentene-  
1,2-diyl)bis- (CA INDEX NAME)



RN 496053-40-8 CAPLUS  
CN 2,2'-Bithiophene, 3-(2-[2,2'-bithiophen]-3-yl)-3,3,4,4,5,5-hexafluoro-1-  
cyclopenten-1-yl)- (CA INDEX NAME)





OS.CITING REF COUNT: 19 THERE ARE 19 CAPLUS RECORDS THAT CITE THIS  
RECORD (19 CITINGS)  
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2002:487244 CAPLUS

DOCUMENT NUMBER: 137:337515

TITLE: Photochromic dihetarylethenes. 10. Photochromic  
1,2-bis[2-(benzothiazol-2-yl)-3-thienyl]- and  
1,2-bis[2-(benzothiazol-2-yl)benzothiophen-3-  
yl]ethenes

AUTHOR(S): Krayushkin, M. M.; Stoyanovich, F. M.; Zolotarskaya,  
O. Yu.; Murav'ev, I. V.; Martynkin, A. Yu.; Uzhinov,  
B. M.

CORPORATE SOURCE: N. D. Zelinsky Institute of Organic Chemistry, Russian  
Academy of Sciences, Moscow, 119991, Russia

SOURCE: Russian Chemical Bulletin (Translation of Izvestiya  
Akademii Nauk, Seriya Khimicheskaya) (2001), 50(12),  
2420-2423

CODEN: RCBUEY; ISSN: 1066-5285

PUBLISHER: Kluwer Academic/Consultants Bureau

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 137:337515

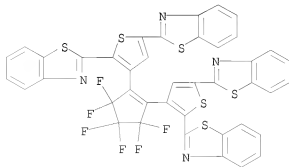
IT 474098-43-6P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)

(photochromism; preparation and photochromism of 1,2-di(thien-3-yl)ethenes  
containing thiophene rings with benzothiazolyl substituents)

RN 474098-43-6 CAPLUS

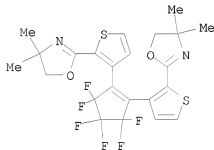
CN Benzothiazole, 2,2',2'',2'''-[(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-  
diyl)di-3,2,5-thiophenetriyl]tetrakis- (9CI) (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD

(3 CITINGS)  
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 1996:516349 CAPLUS  
DOCUMENT NUMBER: 125:225107  
ORIGINAL REFERENCE NO.: 125:42025a,42028a  
TITLE: Switching flow and phase behavior in surfactant  
systems via photochemical reactions  
AUTHOR(S): Nees, D.; Blenkle, M.; Koschade, A.; Wolff, T.;  
Baglioni, P.; Dei, L.  
CORPORATE SOURCE: Physikalische Chem., Universitaet-GH-Siegen, Siegen,  
D-57068, Germany  
SOURCE: Progress in Colloid & Polymer Science (1996),  
101(Interfaces, Surfactants and Colloids in  
Engineering), 75-85  
CODEN: PCPSD7; ISSN: 0340-255X  
PUBLISHER: Steinkopff  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
IT 182003-81-2P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(phase transition of surfactant systems analyzed by ESR spin probes of  
photocyclizable dithienylhexafluorocyclopentenes)  
RN 182003-81-2 CAPLUS  
CN Oxazole, 2,2'-[(3,3,4,4,5,5-hexafluoro-1-cyclopentene-1,2-diyl)di-3,2-  
thiophenediyl]bis[4,5-dihydro-4,4-dimethyl- (9CI) (CA INDEX NAME)



OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD  
(6 CITINGS)

=> FIL STNGUIDE  
COST IN U.S. DOLLARS  
FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
54.13	458.48

FILE 'STNGUIDE' ENTERED AT 14:22:45 ON 18 MAR 2010  
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT  
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FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Mar 12, 2010 (20100312/UP).

=>  
Connecting via Winsock to STN

Welcome to STN International! Enter x:X

LOGINID:SSPTASXS1626

PASSWORD:

\*\*\*\*\* RECONNECTED TO STN INTERNATIONAL \*\*\*\*\*  
SESSION RESUMED IN FILE 'STNGUIDE' AT 14:37:53 ON 18 MAR 2010  
FILE 'STNGUIDE' ENTERED AT 14:37:53 ON 18 MAR 2010  
COPYRIGHT (C) 2010 AMERICAN CHEMICAL SOCIETY (ACS)  
COST IN U.S. DOLLARS

	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	1.26	459.74

=> file refg

'REFG' IS NOT A VALID FILE NAME

SESSION CONTINUES IN FILE 'STNGUIDE'

Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files that are available. If you have requested multiple files, you can specify a corrected file name or you can enter "IGNORE" to continue accessing the remaining file names entered.

=> file reg

COST IN U.S. DOLLARS

	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	1.26	459.74

FILE 'REGISTRY' ENTERED AT 14:38:06 ON 18 MAR 2010  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 17 MAR 2010 HIGHEST RN 1211109-76-0

DICTIONARY FILE UPDATES: 17 MAR 2010 HIGHEST RN 1211109-76-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 8, 2010.

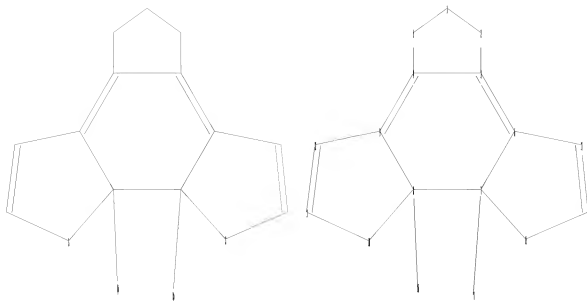
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdoc/properties.html>

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Uploading C:\Program Files\STNEXP\Queries\10526.str



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chain nodes :
16 17
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
chain bonds :
7-17 8-16
ring bonds :
1-2 1-5 2-3 3-4 3-6 4-5 4-9 6-7 6-13 7-8 7-15 8-9 8-10 9-12 10-11
11-12 13-14 14-15
exact/norm bonds :
1-2 1-5 2-3 3-4 3-6 4-5 4-9 6-7 6-13 7-8 7-15 7-17 8-9 8-10 8-16
9-12 10-11 11-12 13-14 14-15

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Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom

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L7 STRUCTURE UPLOADED

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FULL SEARCH INITIATED 14:38:19 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 7346 TO ITERATE

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100.0% PROCESSED      7346 ITERATIONS      13 ANSWERS
SEARCH TIME: 00.00.01

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L8 13 SEA SSS FUL L7

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=> file capl
COST IN U.S. DOLLARS      SINCE FILE      TOTAL
                           ENTRY      SESSION
FULL ESTIMATED COST      191.54      651.28

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FILE 'CAPLUS' ENTERED AT 14:38:21 ON 18 MAR 2010  
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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FILE COVERS 1907 - 18 Mar 2010 VOL 152 ISS 12  
FILE LAST UPDATED: 17 Mar 2010 (20100317/ED)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2009  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2009

CAPLUS now includes complete International Patent Classification (IPC) reclassification data for the first quarter of 2010.

CAS Information Use Policies apply and are available at:

<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l8

L9 8 L8

=> d l9 1-8 ibib hitstr

L9 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2009:796026 CAPLUS

DOCUMENT NUMBER: 151:123405

TITLE: Theoretical Study of Photochromic Compounds. 1. Bond Length Alternation and Absorption Spectra for the Open and Closed Forms of 29 Diarylethene Derivatives

AUTHOR(S): Patel, Pansy D.; Masunov, Artem E.

CORPORATE SOURCE: NanoScience Technology Center, Department of Chemistry, and Department of Physics, University of Central Florida, Orlando, FL, 32826, USA

SOURCE: Journal of Physical Chemistry A (2009), 113(29), 8409-8414

CODEN: JPFAFH; ISSN: 1089-5639

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 860030-99-5

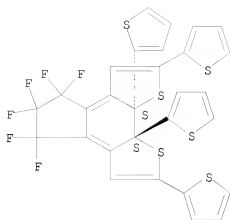
RL: PRP (Properties)

(DFT study on bond length alternation and absorption spectra of the open and closed forms of photochromic diarylethene derivs.)

RN 860030-99-5 CAPLUS

CN 4H-Indeno[5,4-b:6,7-b']dithiophene,  
4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-2,8,9a,9b-tetra-2-thienyl-,  
(9aR,9bR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)  
REFERENCE COUNT: 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2010 ACS on SIN

ACCESSION NUMBER: 2007:446764 CAPLUS

DOCUMENT NUMBER: 147:188676

TITLE: Bidirectional ring-opening and ring-closing of  
cationic 1,2-dithienylcyclopentene molecular switches  
triggered with light or electricity

AUTHOR(S): Gorodetsky, Brian; Branda, Neil R.

CORPORATE SOURCE: Department of Chemistry, Simon Fraser University,  
Burnaby, BC, V5A 1S6, Can.

SOURCE: Advanced Functional Materials (2007), 17(5), 786-796

CODEN: AFMDC6; ISSN: 1616-301X

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 147:188676

IT 944313-56-8

RL: FMU (Formation, unclassified); PRP (Properties); RCT (Reactant); FORM  
(Formation, nonpreparative); RACT (Reactant or reagent)  
(photochem. and electrocatalytic ring opening; bidirectional  
ring-opening and ring-closing of cationic 1,2-dithienylcyclopentene  
mol. switches triggered with light or electricity)

RN 944313-56-8 CAPLUS

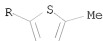
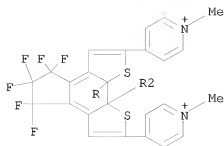
CN Pyridinium, 4,4'-[4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-9a,9b-bis(5-  
methyl-2-thienyl)-4H-indeno[5,4-b:6,7-b']dithiophene-2,8-diyl]bis[1-methyl-  
, hexafluorophosphate(1-)] (1:2) (CA INDEX NAME)

CM 1

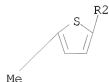
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CMF C35 H26 F6 N2 S4

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PAGE 2-A

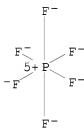


CM 2

CRN 16919-18-9

CMF F6 P

CCI CCS

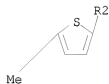
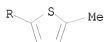
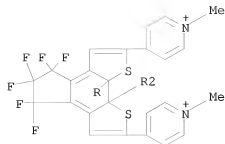


IT 944313-63-7

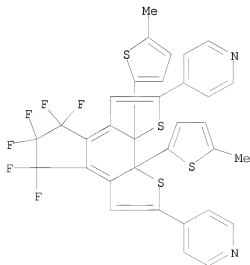
RL: FMU (Formation, unclassified); FEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent) (ring-closed radical cation; bidirectional ring-opening and ring-closing of cationic 1,2-dithienylcyclopentene mol. switches triggered with light or electricity)

RN 944313-63-7 CAPLUS

CN Pyridinium, 4,4'-[4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-9a,9b-bis(5-methyl-2-thienyl)-4H-indeno[5,4-b:6,7-b']dithiophene-2,8-diyl]bis[1-methyl-, radical ion(1+) (CA INDEX NAME)



IT 944313-61-5P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (thermal ring opening; bidirectional ring-opening and ring-closing of  
 cationic 1,2-dithienylcyclopentene mol. switches triggered with light  
 or electricity)  
 RN 944313-61-5 CAPLUS  
 CN Pyridine, 4,4'-[4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-9a,9b-bis(5-  
 methyl-2-thienyl)-4H-indeno[5,4-b:6,7-b']dithiophene-2,8-diyl]bis- (CA  
 INDEX NAME)

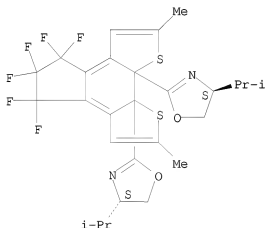




OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS  
RECORD (11 CITINGS)  
REFERENCE COUNT: 89 THERE ARE 89 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2006:54141 CAPLUS  
DOCUMENT NUMBER: 145:438344  
TITLE: Photo controlled stereoselective organic synthetic  
reaction  
AUTHOR(S): Ishitani, Haruro  
CORPORATE SOURCE: Tokyo Institute of Technology, Japan  
SOURCE: Kagaku (Kyoto, Japan) (2006), 61(1), 64-65  
CODEN: KAKYAU; ISSN: 0451-1964  
PUBLISHER: Kagaku Dojin  
DOCUMENT TYPE: Journal; General Review  
LANGUAGE: Japanese  
IT 912969-14-3  
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES  
(Uses)  
(photo controlled stereoselectivity in copper-catalyzed asym.  
cyclopropanation of styrene by Et diazoacetate)  
RN 912969-14-3 CAPLUS  
CN Oxazole, 2,2'-(4,4,5,5,6,6-hexafluoro-5,6-dihydro-2,8-dimethyl-4H-  
indeno[5,4-b:6,7-b']dithiophene-9a,9b-diyl)bis[4,5-dihydro-4-(1-  
methylethyl)-, (4S,4'S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



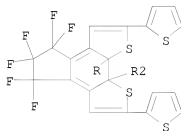
L9 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2005:559648 CAPLUS  
DOCUMENT NUMBER: 143:152970  
TITLE: Electrochemical Cyclization/Cycloreversion Reactions  
of Diarylethenes  
AUTHOR(S): Moriyama, Yoshihisa; Matsuda, Kenji; Tanifuji, Naoki;  
Irie, Setsuko; Irie, Masahiro  
CORPORATE SOURCE: Department of Chemistry and Biochemistry, Graduate  
School of Engineering, JST, Kyushu University and  
PRESTO, Fukuoka, Higashi-ku, 812-8581, Japan  
SOURCE: Organic Letters (2005), 7(15), 3315-3318  
CODEN: ORLEF7; ISSN: 1523-7060  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal

LANGUAGE: English  
OTHER SOURCE(S): CASREACT 143:152970  
IT 860111-71-3

RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent) (electrochem. cyclization/cycloreversion reactions of diarylethenes)

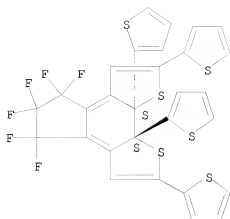
RN 860111-71-3 CAPLUS

CN 4H-Indeno[5,4-b:6,7-b']dithiophene,  
4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-2,8,9a,9b-tetra-2-thienyl-,  
radical ion(1+), (9aR,9bR)-rel- (9CI) (CA INDEX NAME)



IT 860030-99-5  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent) (electrochem. cyclization/cycloreversion reactions of diarylethenes)  
RN 860030-99-5 CAPLUS  
CN 4H-Indeno[5,4-b:6,7-b']dithiophene,  
4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-2,8,9a,9b-tetra-2-thienyl-,  
(9aR,9bR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



OS.CITING REF COUNT: 52 THERE ARE 52 CAPLUS RECORDS THAT CITE THIS  
RECORD (53 CITINGS)  
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2010 ACS on SIN

ACCESSION NUMBER: 2004:143237 CAPLUS

DOCUMENT NUMBER: 140:199926

TITLE: Photochromic and electrochromic compounds and methods  
of synthesizing and using same

INVENTOR(S): Branda, Neil R.; Peters, Andrea; Wigglesworth, Anthony  
J.

PATENT ASSIGNEE(S): Simon Fraser University, Can.

SOURCE: PCT Int. Appl., 62 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004015024	A1	20040219	WO 2003-CA1216	20030811
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
WR: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2494920	A1	20040219	CA 2003-2494920	20030811
AU 2003257320	A1	20040225	AU 2003-257320	20030811
JP 2005535692	T	20051124	JP 2004-526557	20030811
JP 4410108	B2	20100203		
US 20060240197	A1	20061026	US 2005-523965	20050207
PRIORITY APPLN. INFO.:			US 2002-402081P	P 20020809
			US 2003-442063P	P 20030124
			WO 2003-CA1216	W 20030811

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 140:199926

IT 496053-41-9P 496053-42-0P 662143-75-1P

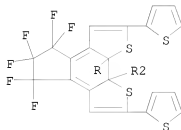
662143-76-2P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(dithienylcyclopentene derivs. convertible between ring-open and ring-closed isomeric forms and polymers including them and their synthesis and use)

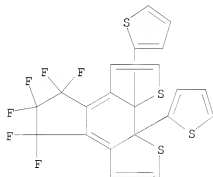
RN 496053-41-9 CAPLUS

CN 4H-Indeno[5,4-b:6,7-b']dithiophene,  
4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-2,8,9a,9b-tetra-2-thienyl-  
(9CI) (CA INDEX NAME)



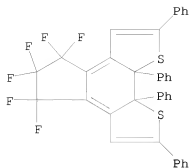
RN 496053-42-0 CAPLUS

CN 4H-Indeno[5,4-b:6,7-b']dithiophene,  
4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-9a,9b-di-2-thienyl- (9CI) (CA  
INDEX NAME)

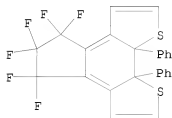


RN 662143-75-1 CAPLUS

CN 4H-Indeno[5,4-b:6,7-b']dithiophene,  
4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-2,8,9a,9b-tetraphenyl- (9CI)  
(CA INDEX NAME)



RN 662143-76-2 CAPLUS  
 CN 4H-Indeno[5,4-b:6,7-b']dithiophene,  
 4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-9a,9b-diphenyl- (9CI) (CA  
 INDEX NAME)

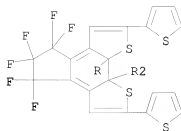


OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
 (2 CITINGS)  
 REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 2003:151150 CAPLUS  
 DOCUMENT NUMBER: 138:346346  
 TITLE: Electrochromism in photochromic dithienylcyclopentenenes  
 AUTHOR(S): Peters, Andrea; Branda, Neil R.  
 CORPORATE SOURCE: Department of Chemistry, Simon Fraser University,  
 Burnaby, BC, V5A 1S6, Can.  
 SOURCE: Journal of the American Chemical Society (2003),  
 125(12), 3404-3405  
 CODEN: JACSAT; ISSN: 0002-7863  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 IT 496053-41-9

RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical,  
 engineering or chemical process); PRP (Properties); RCT (Reactant); FORM  
 (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent)  
 (photochem. ring-closing and electrochem. ring opening properties of  
 bis(thienyl)cyclopentene derivs.)

RN 496053-41-9 CAPLUS  
 CN 4H-Indeno[5,4-b:6,7-b']dithiophene,  
 4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-2,8,9a,9b-tetra-2-thienyl-  
 (9CI) (CA INDEX NAME)



OS.CITING REF COUNT: 98 THERE ARE 98 CAPLUS RECORDS THAT CITE THIS  
RECORD (98 CITINGS)  
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2002:735163 CAPLUS

DOCUMENT NUMBER: 138:160898

TITLE: Regulating  $\pi$ -conjugated pathways using a  
photochromic 1,2-dithienylcyclopentene

AUTHOR(S): Peters, Andrea; McDonald, Robert; Branda, Neil R.  
CORPORATE SOURCE: Department of Chemistry, Simon Fraser University,  
Burnaby, BC, V5A 1S6, Can.

SOURCE: Chemical Communications (Cambridge, United Kingdom)  
(2002), (19), 2274-2275

CODEN: CHCOFS; ISSN: 1359-7345

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

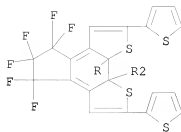
IT 496053-41-9 496053-42-0

RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical,  
engineering or chemical process); PRP (Properties); FORM (Formation,  
nonpreparative); PROC (Process)

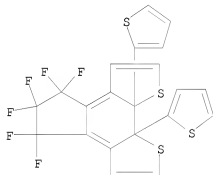
(regulation and reversible re-routing of  $\pi$ -conjugation by  
photochromic reactions of bis(terthiophene) derivs. with  
diethienylethene backbone)

RN 496053-41-9 CAPLUS

CN 4H-Indeno[5,4-b:6,7-b']dithiophene,  
4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-2,8,9a,9b-tetra-2-thienyl-  
(9CI) (CA INDEX NAME)



RN 496053-42-0 CAPLUS  
 CN 4H-Indeno[5,4-b:6,7-b']dithiophene,  
 4,4,5,5,6,6-hexafluoro-5,6,9a,9b-tetrahydro-9a,9b-di-2-thienyl- (9CI) (CA  
 INDEX NAME)



OS.CITING REF COUNT: 19 THERE ARE 19 CAPLUS RECORDS THAT CITE THIS  
 RECORD (19 CITINGS)  
 REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER:

2002:487244 CAPLUS

DOCUMENT NUMBER:

137:337515

TITLE:

Photochromic dihetarylethenes. 10. Photochromic  
 1,2-bis[2-(benzothiazol-2-yl)-3-thienyl]- and  
 1,2-bis[2-(benzothiazol-2-yl)benzothiophen-3-  
 yl]ethenes

AUTHOR(S):

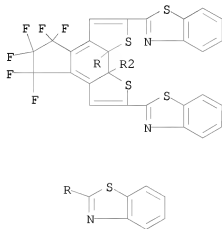
Krayushkin, M. M.; Stoyanovich, F. M.; Zolotarskaya,  
 O. Yu.; Murav'ev, I. V.; Martynkin, A. Yu.; Uzhinov,  
 B. M.

CORPORATE SOURCE:

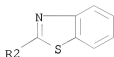
N. D. Zelinsky Institute of Organic Chemistry, Russian  
 Academy of Sciences, Moscow, 119991, Russia

SOURCE: Russian Chemical Bulletin (Translation of Izvestiya Akademii Nauk, Seriya Khimicheskaya) (2001), 50(12), 2420-2423  
 CODEN: RCBUEY; ISSN: 1066-5285  
 PUBLISHER: Kluwer Academic/Consultants Bureau  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 137:337515  
 IT 474098-48-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (photochem. and thermal ring opening; preparation and photochromism of 1,2-di(thien-3-yl)ethenes containing thiophene rings with benzothiazolyl substituents)  
 RN 474098-48-1 CAPLUS  
 CN Benzothiazole, 2,2',2'',2'''-(4,4,5,5,6,6-hexafluoro-5,6-dihydro-4H-indeno[5,4-b:6,7-b']dithiophene-2,8,9a,9b-tetrayl)tetrakis- (9CI) (CA INDEX NAME)

PAGE 1-A

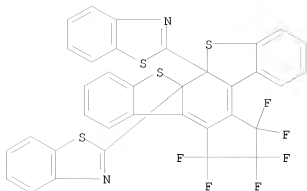


PAGE 2-A



IT 474098-46-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (photochem. ring opening; preparation and photochromism of 1,2-di(thien-3-yl)ethenes containing thiophene rings with benzothiazolyl substituents)  
 RN 474098-46-9 CAPLUS  
 CN Benzothiazole, 2,2'-(5,5,6,6,7,7-hexafluoro-6,7-dihydro-5H-indeno[5,4-b:6,7-b']bis[1]benzothiophene-12a,12b-diyl)bis- (9CI) (CA INDEX NAME)





OS.CITING REF COUNT: 3 THERE ARE 3 CAPUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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